

Appendix A

ALLERGEN SOURCE	SYSTEMATIC AND ORIGINAL NAMES	MW kDa	SEQ	ACCESSION NO. OR REFERENCES
WEED POLLENS				
<i>Asterales</i>				
<i>Ambrosia artemisiifolia</i> (short ragweed)	Amb a 1; antigen E Amb a 2; antigen K Amb a 3; Ra3 Amb a 5; Ra5 Amb a 6; Ra6 Amb a 7; Ra7 Amb a ?	38 38 11 5 10 12 11	C C C C C P C	8,20 8,21 22 11,23 24,25 26 27
<i>Ambrosia trifida</i> (giant ragweed)	Amb t 5; Ra5G	4.4	C	9,10,28
<i>Artemisia vulgaris</i> (mugwort)	Art v 1 Art v 2	27-29 35	C P	28A 29
<i>Helianthus annuus</i> (sunflower)	Hel a 1 Hel a 2; profilin	34 15.7	- C	29a Y15210
<i>Mercurialis annua</i>	Mer a 1; profilin	14-15	C	Y13271
GRASS POLLENS				
<i>Poales</i>				
<i>Cynodon dactylon</i> (Bermuda grass)	Cyn d 1 Cyn d 7 Cyn d 12; profilin	32 C 14	C C C	30,S83343 31,X91256 31a,Y08390
<i>Dactylis glomerata</i> (orchard grass)	Dac g 1; AgDg1 Dac g 2 Dac g 3 Dac g 5	32 11 C 31	P C C P	32 33,S45354 33a,U25343 34
<i>Holcus lanatus</i> (velvet grass)	Hol l 1		C	Z27084,Z68893
<i>Lolium perenne</i> (rye grass)	Lol p 1; group I Lol p 2; group II Lol p 3; group III Lol p 5; Lol p IX, Lol p Ib Lol p 11; trypsin inh. Related	27 11 11 31/35 16	C C C C	35,36 37,37a,X73363 38 34,39 39a
<i>Phalaris aquatica</i> (canary grass)	Pha a 1		C	40,S80654
<i>Phleum pratense</i> (timothy grass)	Phl p 1 Phl p 2 Phl p 4 Phl p 5; Ag25 Phl p 6 Phl p 12; profilin	27 C P 32 C C	C C P C C C	X78813 41,X75925 41A 42 43,Z27082 44,X77583

	Phl p 13; polygalacturonase	55-60	C	AJ238848
Poa pratensis (Kentucky blue grass)	Poa p 1; group I Poa p 5	33 31/34	P C	46 34,47
Sorghum halepense (Johnson grass)	Sor h 1		C	48
TREE POLLENS				
<i>Fagales</i>				
Alnus glutinosa (alder)	Aln g 1	17	C	S50892
Betula verrucosa (birch)	Bet v 1 Bet v 2; profilin Bet v 3 Bet v 4 Bet v 5; isoflavone reductase homologue Bet v 7; cyclophilin	17 15 8 33.5 18	C C C C	see list of isoallergens M65179 X79267 X87153/S54819 AF135127 P P81531
Carpinus betulus (hornbeam)	Car b 1	17	C	51
Castanea sativa (chestnut)	Cas s 1; Bet v 1 homologue Cas s5; chitinase	22	P	52
Corylus avellana (hazel)	Cor a 1	17	C	53
Quercus alba (white oak)	Que a 1	17	P	54
Cryptomeria japonica (sugi)	Cry j 1 Cry j 2	41-45	C C	55,56 57,D29772
Juniperus ashei (mountain cedar)	Jun a 1 Jun a 3	43 30	P P	P81294 P81295
Juniperus oxycedrus (prickly juniper)	Jun o 2; calmodulin-like	29	C	AF031471
Juniperus sabinaoides (mountain cedar)	Jun s 1	50	P	58
Juniperus virginiana (eastern red cedar)	Jun v 1	43	P	P81825
<i>Oleales</i>				
Fraxinus excelsior (ash)	Fra e 1	20	P	58A
Ligustrum vulgare (privet)	Lig v 1	20	P	58A
Olea europaea (olive)	Ole e 1; Ole e 2; profilin Ole e 3; Ole e 4;	16 15-18 9.2 32	C C P	59,60 60A 60B P80741

	Ole e 5; superoxide dismutase Ole e 6;	16 10	P C	P80740 U86342
Syringa vulgaris (lilac)	Syr v 1	20	P	58A
MITES				
Acarus siro (mite)	Aca s 13; fatty acid-bind.prot.	14*	C	AJ006774
Blomia tropicalis (mite)	Blo t 5; Blo t 12; Bt11a Blo t 13; Bt6 fatty acid-binding prot		C C C	U59102 U27479 U58106
Dermatophagoides pteronyssinus (mite)	Der p 1; antigen P1 Der p 2; Der p 3; trypsin Der p 4; amylase Der p 5; Der p 6; chymotrypsin Der p 7; Der p 8; glutathione transferase Der p 9; collagenolytic serine prot. Der p 10; tropomyosin Der p 14; apolipoprotein like p	25 14 28/30 60 14 25 22-28 36	C C C C P C C C	61 62 63 64 65 66 67 67A 67B Y14906 Epton p.c.
Dermatophagoides microceras (mite)	Der m 1;	25	P	68
Dermatophagoides farinae (mite)	Der f 1; Der f 2; Der f 3; Der f 10; tropomyosin Der f 11; paramyosin Der f 14; Mag3, apolipoprotein	25 14 30 98	C C C C	69 70,71 63 72 72a D17686
Euroglyphus maynei (mite)	Eur m 14; apolipoprotein	177	C	AF149827
Lepidoglyphus destructor (storage mite)	Lep d 2.0101; Lep d 2.0102;	15 15	C C	73,74,75 75
ANIMALS				
Bos domesticus (domestic cattle) (see also foods)	Bos d 2; Ag3, lipocalin Bos d 4; alpha-lactalbumin Bos d 5; beta-lactoglobulin Bos d 6; serum albumin Bos d 7; immunoglobulin Bos d 8; caseins	20 14.2 18.3 67 160 20-30	C C C C C	76,L42867 M18780 X14712 M73993 77 77
Canis familiaris (Canis domesticus (dog)	Can f 1; Can f 2; Can f ?; albumin	25 27	C C C	78,79 78,79 S72946
Equus caballus (domestic horse)	Equ c 1; lipocalin Equ c 2; lipocali	25 18.5	C P	U70823 79A,79B
Felis domesticus	Fel d 1; cat-1	38	C	15

(cat saliva)				
Mus musculus (mouse urine)	Mus m 1; MUP	19	C	80,81
Rattus norvegicus (rat urine)	Rat n 1	17	C	82,83
FUNGI				
<i>Ascomycota</i>				
Dothidiales				
Alternaria alternata	Alt a 1; Alt a 2; Alt a 3; heat shock protein Alt a 6; ribosomal protein Alt a 7; YCP4 protein Alt a 10; aldehyde dehydrogenase Alt a 11; enolase Alt a 12;acid.ribosomal prot P1	28 25 70 11 22 53 45 11	C C C C C C C C	U82633 U87807,U87808 X78222, U87806 X78225 X78227, P42041 U82437 X84216
Cladosporium herbarum	Cla h 1; Cla h 2; Cla h 3; aldehyde dehydrogenase Cla h 4; ribosomal protein Cla h 5; YCP4 protein Cla h 6; enolase Cla h 12;acid.ribosomal prot P1	13 23 53 11 22 46 11	C C C C C C C	83a,83b 83a,83b X78228 X78223 X78224 X78226 X85180
Eurotiales				
	Asp fl 13; alkaline serine proteinase	34		84
Aspergillus Fumigatus	Asp f 1; Asp f 2; Asp f 3; peroxisomal protein Asp f 4; Asp f 5; metalloprotease Asp f 6; Mn superoxide dismutase Asp f 7; Asp f 8; ribosomal protein P2 Asp f 9; Asp f 10; aspartic protease Asp f 11; peptidyl-prolyl isom Asp f 12; heat shock prot. P70 Asp f 13; alkaline serine proteinase Asp f 15; Asp f 16; Asp f 17; Asp f 18; vacuolar serine Asp f ?; Asp f ?;	18 37 19 30 42 26.5 12 11 34 34 24 65 34 16 43 34 90 55 P P	C C C C C C C C C C C C C C C C C P P	83781,S39330 U56938 U20722 AJ001732 Z30424 U53561 AJ223315 AJ224333 AJ223327 X85092 84a U92465 84b AJ002026 g3643813 AJ224865 84c 85 86
Aspergillus niger	Asp n 14; beta-xylosidase Asp n 18; vacuolar serine	105 34	C C	AF108944 84b

	proteinase Asp n ?;	85	C	Z84377
Aspergillus oryzae	Asp o 2; TAKA-amylase A	53	C	D00434,M33218
	Asp o 13; alkaline serine proteinase	34	C	X17561
Penicillium brevicompactum	Pen b 13; alkaline serine Proteinase	33		86a
Penicillium citrinum	Pen c 1; heat shock protein P70	70	C	U64207
	Pen c 3; peroxisomal membrane protein	33		86b
Penicillium notatum	Pen n 1; N-acetyl glucosaminidase	68		87
	Pen n 13; alkaline serine proteinase	34		89
	Pen n 18; vacuolar serine proteinase	32		89
Penicillium oxalicum	Pen o 18; vacuolar serine proteinase	34		89
Onygenales				
Trichophyton rubrum	Tri r 2;		C	90
	Tri r 4; serine protease		C	90
Trichophyton tonsurans	Tri t 1;	30	P	91
	Tri t 4; serine protease	83	C	90
Saccharomycetales				
Candida albicans	Cand a 1	40	C	88
Candida boidinii	Cand b 2	20	C	J04984,J04985
Basidiomycota				
Basidiolelastomycetes				
Malassezia furfur	Mal f 1;	21	C	91a
	Mal f 2; MF1 peroxisomal membrane protein			AB011804
	Mal f 3; MF2 peroxisomal membrane protein	20	C	AB011805
	Mal f 4,	35	C	Takesako, p.c.
	Mal f 5;	18*	C	AJ011955
	Mal f 6; cyclophilin homologue	17*	C	AJ011956
Basidiomycetes				
Psilocybe cubensis	Psi c 1; Psi c 2; cyclophilin	16		91b
Coprinus comatus (shaggy cap)	Cop c 1;	11	C	AJ132235
	Cop c 2;			Brander, p.c.
	Cop c 3;			Brander, p.c.
	Cop c 5;			Brander, p.c.
	Cop c 7;			
INSECTS				
Aedes aegyptii (mosquito)	Aed a 1; apyrase	68	C	L12389
	Aed a 2;	37	C	M33157

<i>Apis mellifera</i> (honey bee)	Api m 1; phospholipase A2 Api m 2; hyaluronidase Api m 4; melittin Api m 6;	16 44 3 7-8	C C C P	92 93 94 Kettner,p.c.
<i>Bombus pennsylvanicus</i> (bumble bee)	Bom p 1; phospholipase Bom p 4; protease	16	P P	95 95
<i>Blattella germanica</i> (German cockroach)	Bla g 1; Bd90k Bla g 2; aspartic protease Bla g 4; calycin Bla g 5; glutathione transf. Bla g 6; troponin C	36 21 22 27	C C C C	96 97 98 98
<i>Periplaneta americana</i> (American cockroach)	Per a 1; Cr-PII Per a 3; Cr-PI Per a 7; tropomyosin	72-78 37	C C C	98A Y14854
<i>Chironomus thummi</i> thummi (midges)	Chi t 1-9; hemoglobin Chi t 1.01; component III Chi t 1.02; component IV Chi t 2.0101; component I Chi t 2.0102; component IA Chi t 3; component II-beta Chi t 4; component IIIA Chi t 5; component VI Chi t 6.01; component VIIA Chi t 6.02; component IX Chi t 7; component VIIB Chi t 8; component VIII Chi t 9; component X	16 16 16 16 16 16 16 16 16 16 16 16 16 16	C C C C C C C C C C C C C C	99 P02229 P02230 P02221 P02221 P02222 P02231 P02224 P02226 P02223 P02225 P02227 P02228
<i>Dolichovespula maculata</i> (white face hornet)	Dol m 1; phospholipase A1 Dol m 2; hyaluronidase Dol m 5; antigen 5	35 44 23	C C C	100 101 102,103
<i>Dolichovespula arenaria</i> (yellow hornet)	Dol a 5; antigen 5	23	C	104
<i>Polistes annularis</i> (wasp)	Pol a 1; phospholipase A1 Pol a 2; hyaluronidase Pol a 5; antigen 5	35 44 23	P P C	105 105 104
<i>Polistes dominulus</i> (Mediterranean paper wasp)	Pol d 1; Pol d 4; serine protease Pol d 5;	32-34	C	DR Hoffman DR Hoffman P81656
<i>Polistes exclamans</i> (wasp)	Pol e 1; phospholipase A1 Pol e 5; antigen 5	34 23	P C	107 104
<i>Polistes fuscatus</i> (wasp)	Pol f 5; antigen 5	23	C	106
<i>Polistes metricus</i> (wasp)	Pol m 5; antigen 5	23	P	106
<i>Vespa crabo</i> (European hornet)	Vesp c 1; phospholipase Vesp c 5.0101; antigen 5	34 23	P C	107 106

	Vesp c 5.0102; antigen 5	23	C	106
Vespa mandarina (giant asian hornet)	Vesp m 1.01; Vesp m 1.02; Vesp m 5;			DR Hoffman DR Hoffman P81657
Vespula flavopilosa (yellowjacket)	Ves f 5; antigen 5	23	C	106
Vespula germanica (yellowjacket)	Ves g 5; antigen 5	23	C	106
Vespula maculifrons (yellowjacket)	Ves m 1; phospholipase A1 Ves m 2; hyaluronidase Ves m 5; antigen 5	33.5 44 23	C P 23	108 109 104
Vespula pennsylvanica (yellowjacket)	Ves p 5; antigen 5	23	C	106
Vespula squamosa (yellowjacket)	Ves s 5; antigen 5	23	C	106
Vespula vidua (wasp)	Ves vi 5;	23	C	106
Vespula vulgaris (yellowjacket)	Ves v 1; phospholipase A1 Ves v 2; hyaluronidase Ves v 5; antigen 5	35 44 23	C P C	105A 105A 104
Myrmecia pilosula (Australian jumper ant)	Myr p 1, Myr p 2;		C C	X70256 S81785
Solenopsis geminata (tropical fire ant)	Sol g 2; Sol g 4			DR Hoffman DR Hoffman
Solenopsis invicta (fire ant)	Sol i 2; Sol i 3; Soli 4;	13 24 13	C C C	110,111 110 110
Solenopsis saevissima (brazilian fire ant)	Sols 2;			DR Hoffman
FOODS				
Gadus callarias (cod)	Gad c 1; allergen M	12	C	112,113
Salmo salar (Atlantic salmon)	Sals 1; parvalbumin	12	C	X97824,X97825
Bos domesticus (domestic cattle)	Bos d 4; alpha-lactalbumin Bos d 5; beta-lactoglobulin Bos d 6; serum albumin Bos d 7; immunoglobulin Bos d 8; caseins	14.2 18.3 67 160 20-30	C C C C C	M18780 X14712 M73993 77 77
Gallus domesticus (chicken)	Gal d 1; ovomucoid Gal d 2; ovalbumin Gal d 3; conalbumin (Ag22) Gal d 4; lysozyme Gal d 5; serum albumin	28 44 78 14 69	C C C C C	114,115 114,115 114,115 114,115 X60688

Metapenaeus ensis (shrimp)	Met e 1; tropomyosin		C	U08008
Penaeus aztecus (shrimp)	Pen a 1; tropomyosin	36	P	116
Penaeus indicus (shrimp)	Pen i 1; tropomyosin	34	C	117
Todarodes pacificus (squid)	Tod p 1; tropomyosin	38	P	117A
Haliotis Midae (abalone)	Hal m 1	49	-	117B
Apium graveolens (celery)	Api g 1; Bet v 1 homologue	16*	C	Z48967
	Api g 4; profilin			AF129423
	Api g 5;	55/58	P	P81943
Brassica juncea (oriental mustard)	Bra j 1; 2S albumin	14	C	118
Brassica rapa (turnip)	Bra r 2; prohevein-like protein	25	?	P81729
Hordeum vulgare (barley)	Hor v 1; BMA1-1	15	C	119
Zea mays (maize, corn)	Zea m 14; lipid transfer prot.	9	P	P19656
Corylus avellana (hazelnut)	Cor a 1.0401; Bet v 1 homologue	17	C	AF136945
Malus domestica (apple)	Mal d 1; Bet v 1 homologue		C	X83672
	Mal d 3; lipid transfer protein	9	C	Pastorello
Pyrus communis (pear)	Pyr c 1; Bet v 1 homologue	18	C	AF05730
	Pyr c 4; profilin	14	C	AF129424
	Pyr c 5; isoflavone reductase homologue	33.5	C	AF071477
Oryza sativa (rice)	Ory s 1;		C	U31771
Persea americana (avocado)	Pers a 1; endochitinase	32	C	Z78202
Prunus armeniaca (apricot)	Pru ar 1; Bet v 1 homologue		C	U93165
	Pru ar 3; lipid transfer protein	9	P	
Prunus avium (sweet cherry)	Pru av 1; Bet v 1 homologue		C	U66076
	Pru av 2; thaumatin homologue		C	U32440
	Pru av 4; profilin	15	C	AF129425
Prunus persica (peach)	Pru p 3; lipid transfer protein	10	P	P81402
Sinapis alba (yellow mustard)	Sin a 1; 2S albumin	14	C	120
Glycine max (soybean)	Gly m 1.0101; HPS	7.5	P	121
	Gly m 1.0102; HPS	7	P	121
	Gly m 2	8	P	A57106
	Gly m 3; profilin	14	C	AJ223982

Arachis hypogaea (peanut)	Ara h 1; vicilin	63.5	C	L34402
	Ara h 2; conglutin	17	C	L77197
	Ara h 3; glycinin	14	C	AF093541
	Ara h 4; glycinin	37	C	AF086821
	Ara h 5; prolin	15	C	AF059616
	Ara h 6; conglutin homolog	15	C	AF092846
	Ara h 7; conglutin homolog	15	C	AF091737
Actinidia chinensis (kiwi)	Act c 1; cysteine protease	30	P	P00785
Solanum tuberosum (potato)	Sol t 1; patatin	43	P	P15476
Bertholletia excelsa (Brazil nut)	Ber e 1; 2S albumin	9	C	P04403,M17146
Juglans regia (English walnut)	Jug r 1; 2S albumin	44	C	U66866
	Jug r 2; vicilin		C	AF066055
Ricinus communis (Castor bean)	Ric c 1; 2S albumin		C	P01089
OTHERS				
Anisakis simplex (nematode)	Ani s 1	24	P	A59069
	Ani s 2; paramyosin	97	C	AF173004
Ascaris suum (worm)	Asc s 1;	10	P	122
Aedes aegyptii (mosquito)	Aed a 1; apyrase	68	C	L12389
	Aed a 2;	37	C	M33157
Hevea brasiliensis (rubber)	Hev b 1; elongation factor	58	P	123,124
	Hev b 2; (1,3-glucanase	58	P	123,124
	Hev b 2; (1,3-glucanase	34/36	C	125
	Hev b 3	24	P	126,127
	Hev b 4; component of microhelix protein complex	100/110/115	P	128
	Hev b 5	16	C	U42640
	Hev b 6.01 hevein precursor	20	C	M36986/p02877
	Hev b 6.02 hevein	5	C	M36986/p02877
	Hev b 6.03 C-terminal fragment	14	C	M36986/p02877 U80598
	Hev b 7; patatin homologue	46	C	Y15042
Ctenocephalides felis felis (cat flea)	Hev b 8; prolin	14	C	AJ132580/AJ1 32581
	Hev b 9; enolase	51	C	AJ249148
	Hev b 10; Mn-superoxide dismut	26	C	
Homo sapiens (human autoallergens)	Cte f 1;	-	C	AF231352
	Cte f 2; M1b	27	C	
	Hom s 1;	73*	C	Y14314
	Hom s 2;	10.3*	C	X80909
	Hom s 3;	20.1*	C	X89985

	Hom s 4; Hom s 5;	36* 42.6*	C C	Y17711 P02538
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